Important Advances in Clinical Medicine

Epitomes of Progress—Neurology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in Neurology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in Neurology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Neurology of the California Medical Association and the summaries were prepared under its direction.

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"Cerebellar Pacemakers"

THE MAJORITY of patients with convulsive disorders are well controlled by the daily administration of anticonvulsant medications. There is, however, a small group of patients who are not controlled regardless of drug type, dosage, or number of drugs used. Patients in this category are usually considered for some surgical procedure to improve convulsive control, particularly if there is evidence of a progressive neurological deficit.

The goal of any surgical procedure in such cases is to remove the epileptogenic focus, and criteria for patient selection have included clinical focal abnormality, radiographic evidence of cerebral lesion and a focal abnormality on the electroencephalogram (EEG). That EEG focus may be better shown by using nasopharyngeal or sphenoidal leads or both, electrocorticography, and depth electrodes.

Surgical procedures have included the excision of the cortical epileptogenic focus, temporal lobectomy for temporal lobe (psychomotor) epilepsy, hemispherectomy, surgical disconnection of cerebral hemispheres, and stereotaxic amygdalotomy. More recently, Cooper et al have implanted electrodes on the cerebellum of patients with intractable epilepsy and applied a continuously modulated low voltage, low frequency stimulation with a remarkable improvement in convulsive control. There has been no long term observation of patients treated with this "cerebellar pacemaker," however.

Of those patients carefully studied and selected for surgical treatment of intractable convulsions, one-third to one-half are fit-free or nearly fit-free following operation. These patients continue to require anti-convulsive drugs, despite this improvement.

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